National Grid predicts Downton Christmas peak

Forecasters are predicting a demand of around 35,410 MW this Christmas Day - enough to light up 3.5 billion Christmas trees!

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Lights twinkling, ovens roasting and families gathering together to watch television; Christmas Day is very busy for most of us so you might be surprised to hear that it has one of the lowest electricity demands of the winter.

Every year National Grid's team of forecasters looks at a range of past trends, behavioural data and detailed updates from the met office to work out just how much electricity will be needed over the Christmas period.

Weather conditions, temperature and the day of the week on which Christmas falls can all make a difference. This year forecasters are predicting a lunchtime peak of around of 35,410 MW enough to light up 3.5 billion Christmas trees– compared to a busy tea time peak of 50,000 MW. The picture will be updated several times a day from now until 25th December but predictions for mild and sunny weather have already caused the forecast to drop by around 2,000 MW.
On Friday (Christmas Day) forecasters are expecting enough solar power on the system to cook 2.8 million turkeys – around a quarter of those expected to be eaten.

Energy forecasting manager Jeremy Caplin is part of an expert team which balances supply and demand on a second by second basis and predicts how much energy will be needed. He said: "The pattern for Christmas Day is very different to the rest of the year. As factories, shops and offices close their doors, demand drops significantly and Christmas Day follows a different pattern to the one we see on a typical winter's day. Demand rises steadily as people wake up and begin turning on their ovens to cook their turkeys and reaches a peak around lunchtime.

"Last year Christmas Day had the lowest demand of the whole winter which was 36,357 MW – enough energy to light up 3.6 billion Christmas trees. Traditionally Boxing Day was always quieter but in recent years behaviour has changed and it is now a popular sales day with supermarkets and shopping centres opening their doors and increasing demand for energy. In 2014 the Boxing Day demand was higher than Christmas Day and we expect to see the same again this year."

After a day of present opening, cooking and family fun, people across the nation settle down to watch television with films and festive specials usually among the most popular.
And it is not just viewers who use TV listings to plan their day, Jeremy and the team also rely on the latest schedules to predict spikes in demand at the end of popular shows which are called TV pick-ups.

He added: "It is important for us to determine which will be the most watched programmes as demand for electricity increases when these shows come to an end and people begin turning lights on, boiling kettles or even opening the fridge for a festive tipple."

Last year the show with the biggest TV pick up was EastEnders. The end of the show coincided with a commercial break in Downton Abbey and saw a pickup of 320 MW – the equivalent amount of energy needed to light 32 million Christmas trees.

The biggest Christmas Day pick-up in recent times followed an episode of Only Fools and Horses in 1996 with a pick-up of 1, 340 MW - enough electricity to bake 30 million mince pies.
This year the team is predicting the last ever Downton Abbey to receive the biggest pick up of 400 MW, followed by Coronation Street and Call the Midwife which are due to finish at the same time.

Jeremy added: "TV pick-ups have reduced over recent years as many people now watch on demand, skip commercial breaks and there are hundreds of channels to choose from. The things that still give big pickups are sporting events, royal weddings and big TV events– anything people want to watch live and in real time."

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Notes for editors

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Notes to Editors:

National Grid is pivotal to the energy systems in the UK and the north eastern United States. We aim to serve customers well and efficiently, supporting the communities in which we operate and making possible the energy systems of the future.

National Grid in the UK:

- We own and operate the electricity transmission network in England and Wales, with day-to-day responsibility for balancing supply and demand. We also operate, but do not own, the Scottish networks. Our networks comprise approximately 7,200 kilometres (4,474 miles) of overhead line, 1,500 kilometres (932 miles) of underground cable and 342 substations.
- We own and operate the gas National Transmission System in Great Britain, with day-to-day responsibility for balancing supply and demand. Our network comprises approximately 7,660 kilometres (4,760 miles) of high-pressure pipe and 618 above-ground installations.
- As Great Britain's System Operator (SO) we make sure gas and electricity is transported safely and efficiently from where it is produced to where it is consumed. From April 2019, Electricity System Operator (ESO) is a new standalone business within National Grid, legally separate from all other parts of the National Grid Group. This will provide the right environment to deliver a balanced and impartial ESO that can realise real benefits for consumers as we transition to a more decentralised, decarbonised electricity system.

- Other UK activities mainly relate to businesses operating in competitive markets outside of our core regulated businesses; including interconnectors, gas metering activities and a liquefied natural gas (LNG) importation terminal – all of which are now part of National Grid Ventures. National Grid Property is responsible for the management, clean-up and disposal of surplus sites in the UK. Most of these are former gas works.

Find out more about the energy challenge and how National Grid is helping find solutions to some of the challenges we face at https://www.nationalgrid.com/group/news
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